REMARKS

Claims 1-6 have been rejected under 35 USC 103(a) as being unpatentable over

Adler et al. Although the Examiner points out that "Adler discloses the inclusion of an

object-oriented extensible software scripting language with which the user can program

new types of objects into the interpreter, define the operations that can be performed on

these objects, and use these objects within the spreadsheet", Adler is silent on objects

that are adapted to handle **two-dimensional** data, such as images, e.g. machine vision

images. In fact, Adler does teach about how to handle **one-dimensional** data, such as

"Timeseries" data (Fig. 4A, and col. 7, lines 22-26, for example).

Further, Adler can be seen to teach away from Applicant's invention by reference

to Fig. 4A. Note well that the time series data is displayed as a "visual format" 302

having a "graphical plot" that is **opaque**, i.e., **not transparent**, and consequently the

spreadsheet and spreadsheet cells are **not** visible where ever the "visual format" is

visible. By contrast, Applicant allows a **transparent** version of a spreadsheet grid to be

visible over a displayed image, as set forth in amended claim 1 ("a data buffer, the data

contents of which are displayed under a transparent spreadsheet grid").

Adler teaches away because all the examples shown by Adler involve charts of

one-dimensional time series data in some form. This is because Adler emphasizes

financial applications of his invention, as stated in col. 3, lines 29-34, "an electronic

spreadsheet that can be used in the field of financial market analysis, and in particular,

in the analysis and manipulation of complex data objects that represent historical or

static representations of different types of financial instruments." Fig. 3, element 202,

includes a check box labeled "Price Transformations". Fig. 5 includes elements 44 and 46, labeled "OPTIONS" and "COMMODITIES", respectively.

Again, in col. 7, lines 19-34, "The electronic spreadsheet of the present invention, in a preferred embodiment, may be used in the field of financial market analysis. In such a case, the electronic spreadsheet may process signals corresponding to complex financial market objects, such as objects having object types referred to as Timeseries, real-time Timeseries, Options, and Commodities. These complex financial market objects are merely **complex sets of data elements** arranged in different formats and relating to different financial market trading instruments. The various types of complex data objects may include data that represents the value of a financial instrument at a fixed date and time, data that defines the date and time of such valuation, and data that permits conversion of the data representing the valuation of the financial instrument info different currency values." (col. 7, lines 19-34) Here, it's clear that Adler is contemplating merely a variety of **one-dimensional** data types that he considers to be complex from a financial viewpoint. There is no teaching, suggestion, or motivation in Adler to handle **two-dimensional** data types, as in Applicant's invention.

Further, the Examiner admits that "Adler does not disclose an object-oriented spreadsheet in which the objects provide storage and functions and a single value is returned by the functions", as required by the first element of Applicant's claim 1. The Examiner then asserts that since Adler teaches an extensible scripting language, Adler makes Applicant's invention obvious, since the scripting language is asserted to "provide the capability of creating function-specific objects". However, this statement is mere speculation, and there is nothing in Adler that teaches, suggests, or motivates

such capability, or if such capability exists in Adler, any suggestion or motivation to create Applicant's invention using the scripting language of Adler. Adler does not teach enough to enable Applicant's invention, since it would clearly require undue experimentation to provide Applicant's invention, given solely Adler's disclosure. Consequently, the first element of Applicant's claim 1 would require substantial inventiveness in addition to Adler's disclosed teaching.

Regarding the second element, the Examiner states that "Adler describes an invention that includes a means for displaying objects, and/or the results from the evaluation of a formula, in a plurality of formats selectable by the user based on what the user most desires". However, Adler is silent on displaying two-dimensional images having a plurality of pixels. Adler has no reason to discuss or suggest applying his invention to images, since images do not arise in the context of financial analysis. None of the figures in Adler show an image. Also, in col. 10, lines 1-5, there is mention of "graphs, charts, histograms", but no mention of images there, or anywhere else in the description of Adler's invention.

Further, the Examiner admits that "Adler does not disclose a data display buffer that displays its contents under a variably transparent spreadsheet grid". This is also explained by the fact that if Adler did employ a transparent grid, that grid would create **confusion** when overlaid upon a graph of time series data, or other financial charts and graphs, both already having horizontal and vertical lines (axes) that would create confusion when displayed simultaneously with a "transparent spreadsheet grid", as claimed in amended claim 1. Thus, by emphasizing financial data and graphs thereof, Adler suggests motivation to **avoid** using a **transparent** spreadsheet grid. Thus, it

cannot be obvious to combine transparent spreadsheet grid with Adler's invention to obtain Applicant's invention.

By contrast, Applicant's invention provides the benefit of enhanced feedback and understanding due to presenting both an image to be analyzed, and the spreadsheet that was created to perform analysis of the image. Since it's unlikely that the image will have many vertical and horizontal lines, there is very little visual confusion typically created by overlaying the transparent spreadsheet grid over the image.

The Examiner further opines that "a visual presentation displayed to the user in response to signal corresponding to user input signals" (col. 6, line 48) is "equivalent to the present invention's claimed means for selectively displaying data content corresponding to a selected cell". In fact, the third element of amended claim 1 calls more specifically for "means for selectively displaying the data content of the single method object in the **data display buffer**, the single method object corresponding to a selected spreadsheet cell." However, the actual visual presentation taught by Adler is different from the visual presentation of Applicant's invention, as will now be explained.

First, since the Examiner admits that "Adler does not disclose an object-oriented spreadsheet in which the objects provide storage and functions and a single value is returned by the functions", and therefore that Adler does not teach a "single method object", if follows that Adler also does not teach "displaying the data content of the single method object".

Further, Adler is silent on "a data display buffer, **the data contents of which are displayed under a transparent spreadsheet grid.**" Instead, Adler teaches that "once a cell is selected, the contents of that cell are displayed in the **text edit field** 108." Col.

16, lines 35-36. By contrast, Applicant teaches and claims "means for selectively displaying the data content of the single method object in the data display buffer, the single method object corresponding to a selected spreadsheet cell". Thus, selecting a cell results in displaying the data content of the single method object that is associated with that cell. The data content is displayed under a transparent spreadsheet grid that contains the cell.

Accordingly, since each of the three elements of claim 1 has been shown to be neither taught, suggested, or motivated by Adler, the rejection of claim 1 under 35 USC 103(a) is deemed to be overcome.

Regarding the rejection of independent claim 2, the response to the rejection of claim 1 is incorporated herein. Adler does not teach methods for handling large data sets as taught by Applicant. The only data sets Adler treats are time series data sets, and particularly, financial time series data. As explained above, such data is best presented on graphs and charts that include horizontal and vertical lines that cannot be displayed in transparent superposition with the grid of a spreadsheet without introducing confusion among the axes of the graphs with the vertical and horizontal lines of the spreadsheet grid. Thus, different data sets have different display requirements, and the methods taught by Adler cannot be applied successfully and usefully to the data sets taught by Applicant. Applicant has devised novel and non-obvious methods and improved spreadsheets for handling large data sets, such as images, and particularly machine vision images. Accordingly, the rejection of claim 2 under 35 USC 103(a) is deemed to be overcome.

Regarding independent claim 3, the responses to the rejections of claims 1 and 2 are incorporated herein. It is clear that an image constitutes a large data set, as asserted by the Examiner. However, Adler does not teach methods for handling large data sets as taught by Applicant. The only data sets Adler treats are **time series** data sets, and particularly, financial time series data. As explained above, such data is best presented on graphs and charts that include horizontal and vertical lines that cannot be displayed in transparent superposition with the grid of a spreadsheet without introducing confusion among the axes of the graphs with the vertical and horizontal lines of the spreadsheet grid. Thus, different data sets have different display requirements, and the methods taught by Adler cannot be applied successfully and usefully to the data sets taught by Applicant. Applicant has devised novel and non-obvious methods and improved spreadsheets for handling large data sets, such as images, and particularly machine vision images. Accordingly, the rejection of claim 3 under 35 USC 103(a) is deemed to be overcome.

Regarding dependent claim 4, this claim requires that "the transparent electronic spreadsheet is adjustably transparent". The Examiner cites column 7, line 48, which states: "operative expressions assigned to it, the assignment depending". The Examiner has failed to provide any evidence to support his statement that "it would have been obvious to one of ordinary skill in the art at the time of the invention to include an option resulting in the transparency of a portion of or the entirety of the grid, especially when displaying images, graphs, etc." In fact, as explained above, using a **transparent**

spreadsheet with certain graphs and plots of data would lead to **confusion**. That is why

Adler teaches and shows an **opaque** graph of time series data in Figs. 4A and 4B.

Regarding "adjustable transparency", Adler does not teach, suggest, or motivate

adjustable transparency of a spreadsheet, or any other display feature. Instead, Adler

teaches away by providing a capability to have **each cell** of a spreadsheet display a

different visual appearance, depending on the object type associated with each

individual cell. The different visual appearance preferably includes a difference in

color." (col. 8, lines 27-31) By contrast, Applicant teaches that the entire spreadsheet

be transparent to an adjustable extent. **All the cells of Applicant's spreadsheet are**

treated the same way, regardless of the object type associated with each individual

cell. Adler never mentions or shows even the slightest hint that transparency of a

spreadsheet grid is either desirable or useful. Further, claim 4 depends upon claim 3,

deemed allowable as explained above. Accordingly, the rejection of claim 4 under 35

USC 103(a) is deemed to be overcome.

Regarding dependent claim 5, this claim requires that "the selected cell is

selected using a **game controller**". By contrast, Adler specifically states that "the

electronic spreadsheet, formed in accordance with the present invention, permits the

user to input and manipulate data, through the use of **standard** computer input and

pointing devices (i.e. keyboard, mouse, trackball, joystick, touch screen, etc.)". Note

that Adler does NOT include "game controller". A game controller does NOT provide

the same functionality as a joystick, in that a game controller has more degrees of

freedom than a joystick. Applicant's use of a game controller is NOT a standard

computer input and pointing device for a spreadsheet. Game controllers are standard

input and pointing devices for **computer games and video games**. However,

keyboard and mouse are the standard input devices for spreadsheets. A game

controller is clearly NOT a standard input and pointing device with respect to a

spreadsheet. Thus, it is not obvious to use a game controller with a spreadsheet.

Further, claim 5 depends upon claim 3, deemed allowable as explained above.

Accordingly, the rejection of claim 5 under 35 USC 103(a) is deemed to be overcome.

Regarding dependent claim 6, this claim requires that "the selected cell is

selected using one of a standard keyboard and a mouse". Claim 6 depends upon claim

3, deemed allowable as explained above. Accordingly, the rejection of claim 6 under 35

USC 103(a) is deemed to be overcome.

Claim 7 has been rejected under 35 USC 103(a) as being unpatentable over

Adler in view of Iwasaki. Regarding dependent claim 7, the responses to the rejections

of claim 3 is incorporated herein. The Examiner admits that Adler does not disclose the

superposition of displayed images. Iwasaki has been cited as an example of the

superposition of images, such that the images are transparent with respect to each

other. Applicants, however, teach the superposition of two particular classes of

images: object images, and graphical analysis of object images, such as shown in Fig.

5. There is nothing in Adler or Iwasaki to suggest or motivate showing object images,

and graphical analysis of object images, and certainly nothing in Adler to suggest or

motivate showing a superposition of these two types of images. In particular, although

Iwasaki shows superposition of images, Iwasaki does NOT show superposition of superposition of object images, and graphical analysis of object images. As admitted by the Examiner, Adler fails as well to show anything involving superposition of images. In fact, Adler teaches away by showing opaque data graphs that obscure the view of a spreadsheet in Figs. 4A and 4B. Thus, combining these two teachings cannot possibly result in Applicant's invention as set forth in claim 7. Further, claim 7 depends upon claim 3, which has been deemed allowable as explained above. Accordingly, the rejection of claim 7 under 35 USC 103(a) is deemed to be overcome.

Claim 8 has been rejected under 35 USC 103(a) as being unpatentable over Adler in view of Iwasaki, and further in view of Mastering Excel 97 4th ed. Claim 8 requires that the analysis of the object image is a histogram of the object image. As admitted by the Examiner, neither Adler nor Iwasaki discloses using histograms for graphical analysis of data. However, Mastering Excel does show using histograms for graphical analysis of data. Nevertheless, the histograms are not superimposed with any other image, and in fact, are opaque. Thus, Mastering Excel fails to show a transparent spreadsheet, as well as transparent images, just as does Adler. Moreoever, Iwasaki teaches superposition of images, but also fails to show a transparent spreadsheet cooperative with the superposition of images. None of the references show a transparent spreadsheet superimposed upon any image, whether a single or a superimposed image. Thus, combining Adler, Iwasaki, and Mastering Excel fails to provide Applicant's invention. Further, claim 8 depends upon claim 7 which has been

deemed allowable as explained above. Accordingly, the rejection of claim 8 under 35

USC 103(a) is deemed to be overcome.

The prior art made of record and not relied upon has been reviewed and does

not appear to present an impediment to allowance of the present application.

Attached hereto is a marked-up version of the changes made to the specification

and claims by the current amendment. The attached page is captioned "**VERSION**

WITH MARKINGS TO SHOW CHANGES MADE".

Accordingly, Applicants assert that the present application is in condition for

allowance, and such action is respectfully requested. The Examiner is invited to phone

the undersigned attorney to further the prosecution of the present application.

Respectfully Submitted,

Dated: 12/9/02
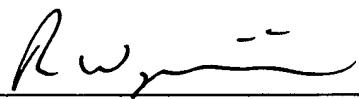
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claims 1 and 2 have been amended as follows:

1. (Amended) An electronic spreadsheet having a plurality of cells, the improvement comprising:

a single method object, adapted to be instantiated in a least one of the spreadsheet cells, and adapted to provide internal storage and member functions, the member functions being adapted to access the single method object and return a single value;

a data display buffer, the data contents of which are displayed under a [variably] transparent spreadsheet grid; and

means for selectively displaying the data content of the single method object in the data display buffer, the single method object corresponding to a selected spreadsheet cell.

2. (Amended) A method for selectively displaying large data sets in an electronic spreadsheet having a plurality of cells, the method comprising:

instantiating a single method object in each of a plurality of the cells of the spreadsheet, each single method object being adapted to provide internal storage for storing a large data set;

displaying the large data set of the single method object corresponding to a selected cell of the spreadsheet; and

displaying in superimposed relationship with the large data set a [variably] transparent spreadsheet including the selected cell.